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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,042	02/04/2004	Oliver Grau	7006P002	5440

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

SANTIAGO, ENRIQUE L

ART UNIT	PAPER NUMBER
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2628

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/773,042	Applicant(s) GRAU, OLIVER	
	Examiner Enrique L. Santiago	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-23 is/are allowed.
- 6) ☒ Claim(s) 1-17 and 24-28 is/are rejected.
- 7) ☐ Claim(s) 18 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-17 and 24-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-17 and 24-28 are directed to an abstract idea, it merely list data that could be used to represent a scene, therefore could be considered a list of non-functional descriptive material, the claims could be considered as describing a method for providing non-functional descriptive material (a step for providing information is considered an abstract idea, the Federal Circuit held that the mere manipulations of abstract ideas are not patentable. *Schrader*, 22 F.3d at 292-93, 30 USPQ2d at 1457-58), therefore the claims are directed solely to non-functional data, which is non-statutory subject matter. See MPEP 2106. Although the claims recite a machine implemented process, this is not determinative of whether that process claim is statutory, the claim is nothing more than an abstract idea which is machine implemented and such a claim is not statutory. See, e.g., *Benson*, 409 U.S. 63, 175 USPQ 673.

Claim Objections

Claim 8 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim must refer to other claims in alternative only. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Allowable Subject Matter

Claims 19-23 are allowed.

Art Unit: 2628

The following is an examiner's statement of reasons for allowance:

Claims 19-23 are allowed, because the prior art alone or in combination among other limitations does not teach or suggest to one of ordinary skill in the art "A system for providing a volumetric representation of a three dimensional object...comprising...obtaining a line list of points of at least one set of lines having start and end points corresponding to the intersection of the lines with object boundary positions...storing the line list of points; and ...producing a modified volumetric representation based on the start and end points of the set of lines"

The closest prior art, US patent no. 6,982,710 B2, teaches modifying the table of configurations for Marching Cubes, to extract a topologically correct iso-surface from a volumetric image, however said prior art fails to teach the previously stated limitations contained in the applicants claims.

Claims 18 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-17 and 24-28 would be allowable for at least the same reasons stated above in regards to claims 19-23, however the applicants' must first overcome the 35 U.S.C. 101 rejections and the objection to claim 8.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US patent no. 6,674,430 B1

US patent no. 6,400,362 B1

US patent no. 5,548,694

US patent no. 5,442,733

Art Unit: 2628

US patent no. 5,101,475

US pub. no. 2003/0151604 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Enrique L Santiago whose telephone number is (571) 272-7648. The examiner can normally be reached on Monday to Thursday from 6:30 A.M. to 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark K. Zimmerman whose telephone number is (571) 272-7653, can be reached on Monday to Friday from 7:00 A.M. to 3:30 P.M.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Faxed to: 571-273-8300

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Enrique L. Santiago

June 27, 2006



MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600